

# Pizza Sales Analysis



Data Visualization Using SQL & Excel



# Problem Statement & Software Used

## PROBLEM STATEMENT

### KPI's REQUIREMENT

We need to analyze key indicators for our pizza sales data to gain insights into our business performance. Specifically, we want to calculate the following metrics:

1. **Total Revenue:** The sum of the total price of all pizza orders.
2. **Average Order Value:** The average amount spent per order, calculated by dividing the total revenue by the total number of orders.
3. **Total Pizzas Sold:** The sum of the quantities of all pizzas sold.
4. **Total Orders:** The total number of orders placed.
5. **Average Pizzas Per Order:** The average number of pizzas sold per order, calculated by dividing the total number of pizzas sold by the total number of orders.

## SOFTWARE USED

**MS OFFICE/ EXCEL: VERSION 2021**

**MS SQL SERVER: 19.0**

**SQL SERVER MANAGEMENT STUDIO – 19.0.20209.0**



# Problem Statement

## PROBLEM STATEMENT

### CHARTS REQUIREMENT

We would like to visualize various aspects of our pizza sales data to gain insights and understand key trends. We have identified the following requirements for creating charts:

- 1. Daily Trend for Total Orders:**  
Create a bar chart that displays the daily trend of total orders over a specific time period. This chart will help us identify any patterns or fluctuations in order volumes on a daily basis.
- 2. Hourly Trend for Total Orders:**  
Create a line chart that illustrates the hourly trend of total orders throughout the day. This chart will allow us to identify peak hours or periods of high order activity.
- 3. Percentage of Sales by Pizza Category:**  
Create a pie chart that shows the distribution of sales across different pizza categories. This chart will provide insights into the popularity of various pizza categories and their contribution to overall sales.

## PROBLEM STATEMENT

### CHARTS REQUIREMENT

- 4. Percentage of Sales by Pizza Size:**  
Generate a pie chart that represents the percentage of sales attributed to different pizza sizes. This chart will help us understand customer preferences for pizza sizes and their impact on sales.
- 5. Total Pizzas Sold by Pizza Category:**  
Create a funnel chart that presents the total number of pizzas sold for each pizza category. This chart will allow us to compare the sales performance of different pizza categories.
- 6. Top 5 Best Sellers by Total Pizzas Sold:**  
Create a bar chart highlighting the top 5 best-selling pizzas based on the total number of pizzas sold. This chart will help us identify the most popular pizza options.
- 7. Bottom 5 Worst Sellers by Total Pizzas Sold:**  
Create a bar chart showcasing the bottom 5 worst-selling pizzas based on the total number of pizzas sold. This chart will enable us to identify underperforming or less popular pizza options.

# SQL Queries

```
use [Pizza DB]
select * from pizza_sales;
/*KPI's Requirement*/
/*1-- Total Revenue*/
select sum(total_price) as Total_Revenue from pizza_sales;

/*2-- Average Order Value--- total revenue/ total number of orders*/
select sum(total_price)/count(distinct order_id) as Avg_Order_Value from pizza_sales;

/*3--Total Pizzas Sold --sum of all quantities */
select sum(quantity) as Total_Pizza_Sold from pizza_sales

/*4--Total Orders-- sum of orders */
select count(distinct order_id) as Total_Orders from pizza_sales;

/*5--Average Pizzas Per Order-- total/count---total pizzas sold / total number of orders ---it is rounding off and giving results */
select cast(cast(sum(quantity) as decimal(10,2))/cast(count(distinct order_id) as decimal(10,2)) as decimal(10,2)) from pizza_sales

/*Charts Requirement */
/*1--Daily trend -- on which particular day order count was highest */
Select DATENAME(DW,order_date) as order_day, count(distinct order_id) as Total_orders
from pizza_sales
group by DATENAME(DW,order_date)
Select DATEPART(DW,order_date) as order_day, count(distinct order_id) as Total_orders
from pizza_sales
group by DATEPART(DW,order_date)
/*datepart--integers output, datename-- string output, dw--day of the week*/



/*2--hourly trend-- on which particular day order count was highest what is the peak time */
select DATEPART(HOUR, order_time) as Order_hours, count(distinct order_id) as Total_orders
from pizza_sales
group by DATEPART(HOUR, order_time)
order by DATEPART(HOUR, order_time) asc

/*3--Percentage of sales by Pizza Category      total pizza category sales/total sales---individual category sales/ total sales if you want percentage multiply by 100 and make a ratio */
select pizza_category, sum(total_price) * 100/(select sum(total_price)from pizza_sales where MONTH(order_date)=1) as PCT
from pizza_sales
where MONTH(order_date)=1
group by pizza_category

select pizza_category, sum(total_price)  from pizza_sales as Total_Sales
group by pizza_category

/*Percentage of Sales by Pizza size---*/
select pizza_size,cast(sum(total_price) as decimal(10,2)) as Total_Sales, cast(sum(total_price) * 100/(select sum(total_price)from pizza_sales where Datepart(quarter, order_date)=1) as decimal(10,2))as PCT
from pizza_sales
where Datepart(quarter, order_date)=1
group by pizza_size
order by PCT desc

/*total pizzas sold by pizza category*/
select * from pizza_sales
select pizza_category,sum(quantity) as Total_Pizzas_Sold from pizza_sales
group by pizza_category

/*Top 5 bestsellers by total Pizzas Sold*/
select top 5 pizza_name,sum(quantity) as Total_Pizzas_Sold from pizza_sales
group by pizza_name
order by sum(quantity) desc

/*Bottom 5 */
select top 5 pizza_name,sum(quantity) as Total_Pizzas_Sold from pizza_sales
group by pizza_name
order by sum(quantity) asc
```



# Data, Excel Dashboard & Insights

| pizza_id | order_id | Total_orders_ | total_orders              | pizza_name   | quantity | order_date        | order_day   | order_time | unit_price | total_pric | pizza_size | pizza_category                                | pizza_ingredients                 | pizza_name |
|----------|----------|---------------|---------------------------|--------------|----------|-------------------|-------------|------------|------------|------------|------------|---|-----------------------------------|------------|
| 1        | 1        | 1             | 1                         | 1 hawaiian_n | 1        | 1/1/2015 Thursday | 11:38:36 AM | 13.25      | 13.25      | Medium     | Classic    | Sliced Ham, Pineapple, Mozzarella Cheese      | The Hawaiian Pizza                |            |
| 2        | 2        | 5             | 0.2 classic_dlx           | 1            | 1        | 1/1/2015 Thursday | 11:57:40 AM | 16         | 16         | Medium     | Classic    | Pepperoni, Mushrooms, Red Onions, Red Pepp    | The Classic Deluxe Pizza          |            |
| 3        | 2        | 5             | 0.2 five_cheese           | 1            | 1        | 1/1/2015 Thursday | 11:57:40 AM | 18.5       | 18.5       | Large      | Veggie     | Mozzarella Cheese, Provolone Cheese, Smok     | The Five Cheese Pizza             |            |
| 4        | 2        | 5             | 0.2 ital_supr_l           | 1            | 1        | 1/1/2015 Thursday | 11:57:40 AM | 20.75      | 20.75      | Large      | Supreme    | Calabrese Salami, Capocollo, Tomatoes, Red    | The Italian Supreme Pizza         |            |
| 5        | 2        | 5             | 0.2 mexicana_r            | 1            | 1        | 1/1/2015 Thursday | 11:57:40 AM | 16         | 16         | Medium     | Veggie     | Tomatoes, Red Peppers, Jalapeno Peppers, Rx   | The Mexicana Pizza                |            |
| 6        | 2        | 5             | 0.2 thai_ckn_l            | 1            | 1        | 1/1/2015 Thursday | 11:57:40 AM | 20.75      | 20.75      | Large      | Chicken    | Chicken, Pineapple, Tomatoes, Red Peppers,    | The Thai Chicken Pizza            |            |
| 7        | 3        | 2             | 0.5 ital_supr_m           | 1            | 1        | 1/1/2015 Thursday | 12:12:28 PM | 16.5       | 16.5       | Medium     | Supreme    | Calabrese Salami, Capocollo, Tomatoes, Red    | The Italian Supreme Pizza         |            |
| 8        | 3        | 2             | 0.5 prsc_argla_           | 1            | 1        | 1/1/2015 Thursday | 12:12:28 PM | 20.75      | 20.75      | Large      | Supreme    | Prosciutto di San Daniele, Arugula, Mozzarell | The Prosciutto and Arugula Pizza  |            |
| 9        | 4        | 1             | 1 ital_supr_m             | 1            | 1        | 1/1/2015 Thursday | 12:16:31 PM | 16.5       | 16.5       | Medium     | Supreme    | Calabrese Salami, Capocollo, Tomatoes, Red    | The Italian Supreme Pizza         |            |
| 10       | 5        | 1             | 1 ital_supr_m             | 1            | 1        | 1/1/2015 Thursday | 12:21:30 PM | 16.5       | 16.5       | Medium     | Supreme    | Calabrese Salami, Capocollo, Tomatoes, Red    | The Italian Supreme Pizza         |            |
| 11       | 6        | 2             | 0.5 bbq_ckn_s             | 1            | 1        | 1/1/2015 Thursday | 12:29:36 PM | 12.75      | 12.75      | Regular    | Chicken    | Barbecued Chicken, Red Peppers, Green Pep     | The Barbecue Chicken Pizza        |            |
| 12       | 6        | 2             | 0.5 the_greek_s           | 1            | 1        | 1/1/2015 Thursday | 12:29:36 PM | 12         | 12         | Regular    | Classic    | Kalamata Olives, Feta Cheese, Tomatoes, Gar   | The Greek Pizza                   |            |
| 13       | 7        | 1             | 1 spinach_su              | 1            | 1        | 1/1/2015 Thursday | 12:50:37 PM | 12.5       | 12.5       | Regular    | Supreme    | Spinach, Red Onions, Pepperoni, Tomatoes, /   | The Spinach Supreme Pizza         |            |
| 14       | 8        | 1             | 1 spinach_su              | 1            | 1        | 1/1/2015 Thursday | 12:51:37 PM | 12.5       | 12.5       | Regular    | Supreme    | Spinach, Red Onions, Pepperoni, Tomatoes, /   | The Spinach Supreme Pizza         |            |
| 15       | 9        | 9             | 0.111111111 classic_dlx   | 1            | 1        | 1/1/2015 Thursday | 12:52:01 PM | 12         | 12         | Regular    | Classic    | Pepperoni, Mushrooms, Red Onions, Red Pepp    | The Classic Deluxe Pizza          |            |
| 16       | 9        | 9             | 0.111111111 green_gard    | 1            | 1        | 1/1/2015 Thursday | 12:52:01 PM | 12         | 12         | Regular    | Veggie     | Spinach, Mushrooms, Tomatoes, Green Olive     | The Green Garden Pizza            |            |
| 17       | 9        | 9             | 0.111111111 ital_cpcollo_ | 1            | 1        | 1/1/2015 Thursday | 12:52:01 PM | 20.5       | 20.5       | Large      | Classic    | Capocollo, Red Peppers, Tomatoes, Goat Che    | The Italian Capocollo Pizza       |            |
| 18       | 9        | 9             | 0.111111111 ital_supr_l   | 1            | 1        | 1/1/2015 Thursday | 12:52:01 PM | 20.75      | 20.75      | Large      | Supreme    | Calabrese Salami, Capocollo, Tomatoes, Red    | The Italian Supreme Pizza         |            |
| 19       | 9        | 9             | 0.111111111 ital_supr_s   | 1            | 1        | 1/1/2015 Thursday | 12:52:01 PM | 12.5       | 12.5       | Regular    | Supreme    | Calabrese Salami, Capocollo, Tomatoes, Red    | The Italian Supreme Pizza         |            |
| 20       | 9        | 9             | 0.111111111 mexicana_s    | 1            | 1        | 1/1/2015 Thursday | 12:52:01 PM | 12         | 12         | Regular    | Veggie     | Tomatoes, Red Peppers, Jalapeno Peppers, Rx   | The Mexicana Pizza                |            |
| 21       | 9        | 9             | 0.111111111 spicy_ital_l  | 1            | 1        | 1/1/2015 Thursday | 12:52:01 PM | 20.75      | 20.75      | Large      | Supreme    | Capocollo, Tomatoes, Goat Cheese, Artichoki   | The Spicy Italian Pizza           |            |
| 22       | 9        | 9             | 0.111111111 spin_pesto_   | 1            | 1        | 1/1/2015 Thursday | 12:52:01 PM | 20.75      | 20.75      | Large      | Veggie     | Spinach, Artichokes, Tomatoes, Sun-dried To   | The Spinach Pesto Pizza           |            |
| 23       | 9        | 9             | 0.111111111 veggie_veg    | 1            | 1        | 1/1/2015 Thursday | 12:52:01 PM | 12         | 12         | Regular    | Veggie     | Mushrooms, Tomatoes, Red Peppers, Green P     | The Vegetables + Vegetables Pizza |            |
| 24       | 10       | 2             | 0.5 mexicana_l            | 1            | 1        | 1/1/2015 Thursday | 1:00:15 PM  | 20.25      | 20.25      | Large      | Veggie     | Tomatoes, Red Peppers, Jalapeno Peppers, Rx   | The Mexicana Pizza                |            |
| 25       | 10       | 2             | 0.5 southw_ckr            | 1            | 1        | 1/1/2015 Thursday | 1:00:15 PM  | 20.75      | 20.75      | Large      | Chicken    | Chicken, Tomatoes, Red Peppers, Red Onions    | The Southwest Chicken Pizza       |            |
| 26       | 11       | 4             | 0.25 bbq_ckn_l            | 1            | 1        | 1/1/2015 Thursday | 1:02:59 PM  | 20.75      | 20.75      | Large      | Chicken    | Barbecued Chicken, Red Peppers, Green Pep     | The Barbecue Chicken Pizza        |            |
| 27       | 11       | 4             | 0.25 cali_ckn_l           | 1            | 1        | 1/1/2015 Thursday | 1:02:59 PM  | 20.75      | 20.75      | Large      | Chicken    | Chicken, Artichoke, Spinach, Garlic, Jalapeno | The California Chicken Pizza      |            |



@rutujapatole

Thankyou.